IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	John G. McCarthy	Examiner: Niketa Patel
Serial No.:	10/645,721	Group Art Unit: 2181
Filed:	August 20, 2003	Docket No.: 100200842-1
Title:	Method and Apparatus for Managing Device Reservation	

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This Appeal Brief is filed in response to the Final Office Action mailed September 21, 2007 and Notice of Appeal filed on December 21, 2007.

AUTHORIZATION TO DEBIT ACCOUNT

It is believed that no extensions of time or fees are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required (including fees for net addition of claims) are hereby authorized to be charged to Hewlett-Packard Development Company's deposit account no. 08-2025.

I. REAL PARTY IN INTEREST

The real party in interest is Hewlett-Packard Development Company, LP, a limited partnership established under the laws of the State of Texas and having a principal place of business at 20555 S.H. 249 Houston, TX 77070, U.S.A. (hereinafter "HPDC"). HPDC is a Texas limited partnership and is a wholly-owned affiliate of Hewlett-Packard Company, a Delaware Corporation, headquartered in Palo Alto, CA. The general or managing partner of HPDC is HPQ Holdings, LLC.

II. RELATED APPEALS AND INTERFERENCES

There are no known related appeals, judicial proceedings, or interferences known to appellant, the appellant's legal representative, or assignee that will directly affect or be directly affected by or have a bearing on the Appeal Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1 – 6, 8 – 15, and 17 – 25 are pending in the application. Claims 12 – 15 and 17 – 25 are withdrawn from consideration. Claims 1 – 6 and 8 – 11 are finally rejected. The rejection of claims 1 – 6 and 8 – 11 is appealed.

IV. STATUS OF AMENDMENTS

No amendments were made after receipt of the Final Office Action. All amendments have been entered.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The following provides a concise explanation of the subject matter defined in each of the claims involved in the appeal, referring to the specification by page and line number and to the drawings by reference characters, as required by 37 C.F.R. § 41.37(c)(1)(v). Each element of the claims is identified by a corresponding reference to the specification and drawings where applicable. Note that the citation to passages in the specification and drawings for each claim element does not imply that the limitations from the specification and drawings should be read into the corresponding claim element or that these are the sole sources in the specification supporting the claim features.

Claim 1

Claim 1 is directed to a method. By way of example, Fig. 2 shows an exemplary method for reserving a device. The method recites two elements (i) and (ii) upon receiving a device command from a first host (see Fig. 2, #205, paragraph [0012]: Example, commands such as SCSI, iSCSI, and Fibre Channel are sent from a host to a storage device). Under element (i), the claim recites reserving for the first host a device targeted by the device command (see Fig. 2, #220, paragraph [0013 – 0014]: The command reserves the storage device for the host.). Under element (ii), the claim recites setting a reservation time period for expiration of the reservation, the reservation time period being determined based on a command type of the device command (see Fig. 2, #225, paragraphs [0013 – 0016]. By way of example, as noted in paragraph [0014], some commands require device reservation. Example commands to a storage tape device include write, read, seek, rewind, load, and unload.).

Claim 8

Claim 8 is directed to the method of claim 1, wherein the device command comprises one of a write command, a rewind command, a read command, a load command, an unload command, and a seek command (see Fig. 2 and description at paragraph [0014]).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1, 3-6, and 8-10 are rejected under 35 USC § 103(a) as being unpatentable over US publication number 2003/0005130 (Cheng) in view of USPN 7,158,938 (Labbe).

Claims 2 and 11 rejected under 35 USC § 103(a) as being unpatentable over US publication number 2003/0005130 (Cheng) in view of USPN 7,158,938 (Labbe) and UK patent application 2379769A (Tawil).

VII. ARGUMENT

The rejection of claims 1 – 6 and 8 – 11 is improper, and Applicants respectfully request reversal of these rejections.

The claims do not stand or fall together. Instead, Applicants present separate arguments for various claims. Each of these arguments is separately argued below and presented with separate headings and sub-heading as required by 37 C.F.R. § 41.37(c)(1)(vii).

Overview of Claims and Primary References (Cheng and Labbe)

As a precursor to the arguments, Applicants provide an overview of the claims and the primary references (Cheng and Labbe). This overview will assist in determining the scope and content of the prior art as required in Graham (see *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17-18 setting out an objective analysis for applying 103 rejections).

Cheng is directed to systems and methods that transfer audio-video information via a Universal Plug and Play (UPnP) network. Fig. 4 shows a diagram showing how a reservation process works when a manager attempts to reserve a resource. Initially, a requestor sends a request that may be either a RESERVE or RELEASE message to a resource manager, such as resource manager 320 of Fig. 3 (see paragraph [0048]). If the message is a RESERVE request, then the resource manager attempts to reserve the resource. The request can reserve a resource for a period of time, known as the reservation time period. In Cheng, the reservation time period is based on time periods specified in the request itself and not based on a type of command received (see paragraph [0052]).

In Labbe, a user at a workstation is provided with time slots for reserving a copier, printer, or facsimile machine. The user selects a number of open time slots based on how much time is needed to complete the copy, print, or fax job. Nowhere does Labbe teach or even suggest that the reservation time is based on a "command type." Instead, Labbe teaches that the reservation time is based on a number of time slots that a user selects to complete the copy, print, or fax job and not based on a command type.

The claims are directed to a method wherein a host sends a device command to a device target in order to reserve the device target. For example, a host computer sends a reservation command to a storage device, such as a tape drive. Upon receiving the device command, a reservation time period is set for the host. The reservation time period for the host is "based on a command type of the device command." Example commands that initiate a reservation time period include write, read, seek, rewind, load, and unload commands to a tape drive.

Claim Rejections: 35 USC § 103(a)

Claims 1, 3-6, and 8-10 are rejected under 35 USC § 103(a) as being unpatentable over US publication number 2003/0005130 (Cheng) in view of USPN 7,158,938 (Labbe). These rejections are traversed.

The claims recite one or more elements that are not taught or suggested in Cheng in view of Labbe. These missing elements show that the differences between the combined teachings in the art and the recitations in the claims are great. As such, the pending claims are <u>not</u> a predictable variation of the art to one of ordinary skill in the art.

Examples are provided below for two claim groups separately argued and presented with separate sub-headings.

<u>Sub-Heading: Group I</u>

Group I includes claims 1, 3-6, and 9-10. Claim 1 is selected for discussion.

Independent claim 1 recites reserving a reservation time period of a device for a host upon receiving a command from the host. The claim then recites that the reservation time period is "based on a <u>command type</u> of the device command" (emphasis added). In other words, claim 1 expressly recites <u>how</u> the reservation time period is determined: The reservation time period is determined based on "command type" of the device command. Applicant's specification clearly supports this recitation:

> After the command is received, a determination is made as to whether the command is of a predetermined type that requires device reservation.... (See paragraph [0013]).

By way of example, if the device 100 is a tape device, commands that result in motion of the tape may require device reservation, while commands that do not affect the tape media may not require device reservation. For example, write, read, seek, rewind, load, and unload commands may be commands that require reservation. Providing a reservation method for these types of commands can prevent other hosts from interfering with a data transfer operation of the requesting host. (See paragraph [0013]).

The Examiner <u>admits</u> that Cheng does not teach a "reservation time period being determined based on a command type of the device command" (see Final OA mailed 09/21/07 at p. 5). Applicants agree with this admission. The Examiner, however, attempts to cure this deficiency with Labbe. Applicants respectfully disagree.

In Labbe, a user at a workstation is provided with time slots for reserving a copier, printer, or facsimile machine (see Labbe at col. 3, lines 11-16; and col. 6, lines 10-20). The user selects a number of open time slots based on how much time is needed to complete the copy, print, or fax job (see Labbe at col. 6, lines 26-29). Labbe also states that the system may automatically determine how many time slots to reserve for each copy, print, or fax job (see Labbe at col. 6, lines 26-29).

Nowhere does Labbe teach or even suggest that the reservation time is based on a "command type." Instead, Labbe teaches that the reservation time is based on a number of time slots that a user selects to complete the copy, print, or fax job. Labbe does not even mention "device commands" or "command types" as these terms are known to those skilled in the art. Again, Labbe is not concerned with device commands or command types whatsoever.

The differences between the claims and the teachings in Cheng and Labbe are great since the references fail to teach or suggest all of the claim elements. As such, the pending claims are <u>not</u> a predictable variation of the art to one of ordinary skill in the art.

For at least these reasons, independent claim 1 and its dependent claims are allowable over Cheng in view of Labbe.

Sub-Heading: Group II

Group II includes claim 8, which is selected for discussion.

Claim 8 is directed to the method of claim 1, wherein the device command comprises one of a write command, a rewind command, a read command, a load command, an unload command, and a seek command. Cheng in view of Labbe does not teach this element.

In the Final Office Action, the Examiner admits that Cheng does not teach a "reservation time period being determined based on a command type of the device command" (see Final OA mailed 09/21/07 at p. 5). In rejecting claim 8, however, the Examiner relies on paragraph [0047] in Cheng. Applicants respectfully disagree.

First, paragraph [0047] in Cheng teaches RESERVE and RELEASE commands having message bodies that specify a "starting time" and an "ending time" of a "reservation time period." Nowhere does Cheng teach that a "reservation time period" is based on a "command type" that comprises one of "of a write command, a rewind command, a read command, a load command, an unload command, and a seek command." Cheng expressly teaches in paragraph [0047] that the body of the command specifies the reservation time period, not a type of the command being transmitted.

Second, the Examiner has already admitted that Cheng does not teach a reservation time period being determined based on a command type of the device command. This admission supports the conclusion that paragraph [0047] in Cheng is not teaching reserving a time period based on command type. Instead, this paragraph in Cheng is teaching commands (i.e., RESERVE and RELEASE) that specify in the body of the command itself the reservation time period.

The differences between claim 8 and the teachings in Cheng and Labbe are great since the references fail to teach or suggest all of the claim elements. As such, the pending claims are not a predictable variation of the art to one of ordinary skill in the art.

For at least these reasons, dependent claim 8 is allowable over Cheng in view of Labbe.

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Factors/Rationale Do Not Support Obviousness

In determining obviousness, neither the particular motivation to make the claimed invention nor the problem the inventor is solving controls. The proper analysis is whether the claimed invention would have been obvious to one of ordinary skill in the art after consideration of all the facts. Further, although the Supreme Court in KSR cautioned against an overly rigid application of the teaching-suggestion-motivation (TSM) rationale, the Supreme Court recognized that TSM was one of a number of valid rationales that could be used to determine obviousness.

Applicants discuss examples of rationale or factors below to show that there is no finding of obviousness.

As a first factor, Applicants respectfully submit that no teaching or suggestion exists to make the combination because the references are directed to completely different inventions. Cheng (in US classification 709/228) is directed to systems and methods that transfer audio-video information via a Universal Plug and Play (UPnP) network. Fig. 1 in Cheng shows a block diagram of a system 100 having UPnP enabling logic 120 in a host system 110 that interacts with controlled or slave devices 171, 181. Fig. 4 shows a diagram showing how a reservation process works when a manager attempts to reserve a resource. **By contrast, Labbe teaches a completely different and unrelated invention.** Labbe (in US classification 705/5) is directed to a user of a workstation reserving a time slot for a copier, printer, or facsimile machine.

As a second factor, Cheng and Labbe would have to be greatly modified to arrive at the claimed invention. Cheng uses a host and slave architecture or infrastructure so audio and video information can be transferred to an UPnP network. The host sends commands to the slave devices. Labbe never teaches or even suggests receiving commands from hosts using such an architecture as taught in Cheng. By contrast, Labbe expressly teaches a display on a workstation for a user to select time slots to copiers, printers, and facsimile machines. The architecture (i.e., workstation and printer/copiers) taught in Labbe would have to be greatly modified to accommodate the teachings in Cheng.

As a third factor, the differences between the claims and the applied references are great. By way of example, claim 1 recites that the reservation time period is

determined based on "command type" of the device command. The Examiner has admitted that Cheng does not teach or suggest this element. Applicants have shown that Labbe does not cure this admitted deficiency. In Labbe, a user selects a time slot for a copier or printer, but Labbe never suggests that such time slots are based on a type of command.

As a fourth factor, the Examiner is performing an improper piecemeal construction that uses hindsight to arrive at the claim elements. In other words, the Examiner is picking and choosing unrelated and isolated sentences or teachings from Cheng and Labbe with hindsight of Applicants' invention to allegedly obviate the pending claims. One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

As a fifth factor, no reasonable expectation of success has been established for modifying Cheng with the teachings of Labbe to arrive at the recitations of the claims. Cheng uses a host and slave architecture to transmit audio and video information through a very specific type of network, known as an UPnP network. Labbe teaches a display on a workstation for a user to select time slots to copiers, printers, and facsimile machines. These architectures are very different. For example, Cheng explains that UPnP architecture uses peer-to-peer (P2P) network connectivity (see paragraph [0004]). This network is designed for audio-video (AV) information. The copiers and printers in Labbe would have to be greatly modified to function in a P2P network for receiving AV information from networked hosts using command types particular to UPnP.

As a sixth factor, Applicant argues that no teaching or suggestion exists to make the combination because the references are directed to solving completely different problems. The background in Cheng discusses problems with UPnP networks, such as not supporting multiple applications, not ensuring quality of service to applications, and requiring UPnP applications to be resident to execute activities. By contrast, the background in Labbe discusses problems associated with people in an office not being able to efficiently share time to a copier, printer, or the like.

These various factors show that elements in the claims are not obvious in view of the Cheng in view of Labbe.

Response to Examiner's Arguments on Combination

The Examiner argues that one skilled in the art "would have clearly recognized that it is quite advantageous for the method of Cheng to determine the reservation time period based on a command type of the device command in order to provide the ability to schedule tasks during low machine demand hours ..." (see Final OA at p. 6). Applicants respectfully disagree. The Examiner previously admitted that Cheng "does not clearly set forth the limitation of the reservation time period being determined based on a command type of the device command" (see OA at p. 3). The Examiner's own admission is completely contrary to the argument for obviousness.

Further, Cheng and Labbe are directed to completely different inventions. Cheng and Labbe would have to be greatly modified to arrive at the claimed invention. Cheng is directed to systems and methods that transfer audio-video information via a Universal Plug and Play (UPnP) network. By stark contrast, Labbe teaches a user interacting with a display on a workstation to select reservation times. The systems in Cheng would have to be greatly modified to be combined with the user workstations and teachings in Labbe.

Second, the differences between the claims and the applied references are great. By way of example, claim 1 recites reserving a reservation time period of a device for a host upon receiving a command from the host. The reservation time period is based on a command type of the device command. By contrast, Labbe does not disclose or even suggest hosts sending commands or reserving time based on command types of device commands. Again, Labbe teaches a user interface on a display of a workstation for a user to reserve time.

Claim Rejections: 35 USC § 103(a)

Claims 2 and 11 rejected under 35 USC § 103(a) as being unpatentable over US publication number 2003/0005130 (Cheng) in view of USPN 7,158,938 (Labbe) and UK patent application 2379769A (Tawil).These rejections are traversed.

As noted above for independent claim 1, Cheng and Labbe do not establish a prima facie case of obviousness. Tawil fails to cure the deficiencies of Cheng and Labbe. Thus for at least the reasons provided with respect to independent claim 1, dependent claims 2 and 11 are allowable over Cheng in view of Labbe and Tawil.

CONCLUSION

In view of the above, Applicants respectfully request the Board of Appeals to reverse the Examiner's rejection of all pending claims.

Any inquiry regarding this Amendment and Response should be directed to Philip S. Lyren at Telephone No. 832-236-5529. In addition, all correspondence should continue to be directed to the following address:

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Respectfully submitted,

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VIII. Claims Appendix

1. A method comprising:

upon receiving a device command from a first host,

    i)   reserving for the first host a device targeted by the device command; and

    ii)   setting a reservation time period for expiration of the reservation, the reservation time period being determined based on a command type of the device command.

2. The method of claim 1, further comprising upon receiving a second device command from the first host, resetting the reservation time period.

3. The method of claim 1, further comprising:

upon receiving a device command targeted to the device from a second host,

        determining if the device is reserved; and

        if the device is reserved to a host other than the second host , denying the device command from the second host.

4. The method of claim 3, wherein determining if the device is reserved comprises determining if the reservation time period has expired.

5. The method of claim 3, further comprising if the device is not reserved, executing the device command from the second host.

6. The method of claim 3, wherein the device command from the second host comprises a clear command.

7. (canceled)

8. The method of claim 1, wherein the device command comprises one of a write command, a rewind command, a read command, a load command, an unload command, and a seek command.

9. The method of claim 1, wherein the device command comprises a tape device command.

10. The method of claim 1, wherein the device command comprises a disk device command.

11. The method of claim 1, wherein the device command comprises a Small Computer System Interface (SCSI) command.

12. (withdrawn) A method comprising:

upon receiving a first command of a predetermined type from a first host, and if a device targeted by the first command is not reserved,

i)   reserving the device for the first host; and

ii)   setting a predefined reservation time period for expiration of the

reservation, the predefined reservation time period not being specified by

the first device command;

upon receiving a subsequent command of a predetermined type from the first

host, while the device is reserved for the first host, resetting the reservation time period;

and

upon receiving the subsequent command of a predetermined type from the first

host, when the reservation status is not reserved for the first host, processing the

subsequent command as the first command.

13. (withdrawn) The method of claim 12, further comprising upon receiving a second

command of a predetermined type targeted to the device from a second host, while the

device is reserved for the first host, denying the second command.

14. (withdrawn) The method of claim 13, wherein the second command comprises one of

a write command, a rewind command, a read command, a load command, an unload

command, and a seek command.

15. (withdrawn) The method of claim 13, wherein the second command comprises a clear

command.

16. (canceled)

17. (withdrawn) The method of claim 16, wherein the first command and the second command comprise Small Computer Systems Interface (SCSI) commands.

18. (withdrawn) The method of claim 17, wherein the second command comprises one of an inquiry command, a request sense command, and a log sense command.

19. (withdrawn) An apparatus comprising:

an interface to receive commands from a plurality of hosts;

a reservation agent, communicatively coupled to the interface, the reservation agent to determine if a device targeted by a first command is reserved, and if the device is not reserved, to reserve the device for a first host initiating the first command, and to set a reservation time period for expiration of the reservation, the reservation time period being based on a command type of the device command.

20. (withdrawn) The apparatus of claim 19, wherein the reservation agent is further to deny a second command targeted to the device received from a second host while the device is reserved to the first host.

21. (withdrawn) The apparatus of claim 19, wherein the reservation agent is further to reset the reservation time period upon receiving a second command targeted to the device from the first host while the device is reserved for the first host.

22. (withdrawn) An apparatus comprising:

first means for receiving commands from a plurality of hosts; and

second means, communicatively coupled to the first means, for determining if a

device targeted by a first command is reserved, for reserving the device for a first host

initiating the first command upon receiving the first command while the device is not

reserved, and for setting a reservation time period for expiration of the reservation, the

reservation time period being based on a command type of the device command.

23. (withdrawn) The apparatus of claim 22, wherein the second means further comprises

means for denying a second command targeted to the device received from a second host

while the device is reserved for the first host.

24. (withdrawn) A method comprising:

upon receiving a device command from a first host,

i)   reserving for the first host a device targeted by the device command; and

ii)   setting a predefined reservation time period for expiration of the

reservation, the predefined reservation time period not being specified by

the device command.

25. (withdrawn) A method comprising:

upon receiving a device command from a first host,

i)   reserving for the first host a device targeted by the device command; and

ii) setting a reservation time period for expiration of the reservation, the reservation

time period being set to begin running after the device command has executed.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.